

ected a laceration extending partially through the substance of the womb. This circumstance I pointed out to Mr. Robertson, and he fully corroborated the fact on making an examination. We effected an immediate delivery with the perforator and craniotomy forceps, and fortunately the woman recovered. We were induced to accomplish the delivery more expeditiously, in this case, than we might have considered necessary, if our attention had not been awakened by her sudden exclamations.

"It will be quite obvious to the reader, from the facts of the case of Hannah Speed, that there will be no great difficulty to attribute the result to its proper causes. The pendulous state of the abdomen, and consequently the altered axis of the womb; the hydrocephalic enlargement of the head; the early evacuation of the liquor amnii; the position of the woman, who in kneeling had the trunk bent forwards during the action of the womb; and shall I add, a softening of the uterine structure?

"The perforation of the fœtal head, (which was discovered only by the *post mortem* examination to be hydrocephalic,) might, in all probability, have led to a more fortunate issue; but, during the life of the patient, this fact was not known. Speaking of the hydrocephalic head, it may be proper to state, that its existence is not so easily ascertained as some writers would lead their readers to believe; three cases of this description have come under my observation, and yet the indications which are stated to characterize this condition of the head were absent in all.

"I should have extracted the child, by an incision through the abdominal parietes, if I had been with the patient at the time of her death; but my absence, and other circumstances, induced me to defer the investigation until a more favourable period."

## CHOLERA.

28. *Historical Examination of the Epidemic Cholera of Paris; Account of the different Modes of Treatment employed against different Forms and Periods of the Disease; and Estimate of the results of these Methods.*—The numerous materials collected from all parts of Paris, will, doubtless, furnish the means of tracing a general history of the epidemic cholera; and while we wait for the periods when we may undertake this task, we shall publish, in the meantime, a series of facts by which it may be facilitated. We begin with the

*Hôtel-Dieu.*—The sanitary state of this large hospital always furnishes the exact standard of what is going on in the rest of the city. Its central position and the neighbourhood of several populous districts, caused patients to flock thither before the prevalent disease was heard of at the other establishments.

Already, especially under the care of M. Petit, it had been observed that several persons were attacked with profuse diarrhœa and serous vomiting; and one or two cases of sporadic cholera had been observed, which had yielded to simple rational treatment, when, on the 26th of March, a woman with the same symptoms, though in a more advanced stage, entered the St. Paul Ward. The existence of cholera was admitted, without, however, regarding the case as of the epidemic species. The woman died four or five days after.

On the 27th of March, 4 new cases, 2 men and 2 women, with the symptoms ascribed to Indian cholera, were brought in the evening. Assistance was promptly given; but a man and a woman died next day, and inspection left no doubt on the nature of the disorder. The remedies were external revellents and opiates; but reïction did not take place, and death speedily ensued. These cases were carefully recorded by M. Montault, pupil of M. Petit.

On the 28th, 9 men, labouring under intense cholera, were admitted. One died the same day, after being a few hours in the ward; 7 more died next day, and 1 only recovered. A women entered the Hôtel-Dieu the same day, about

four in the afternoon, and expired before midnight. On opening a vein, no blood could be obtained; the exhibition of punch produced no reaction; and, to use the language of M. Magendie, by whom she was treated, she was a *cadaverized* case,—a true type of that asphyxial variety afterwards met with. These first demonstrations indicated the severity of the disease; and two wards were assigned for the admission of patients that might forthwith be expected. This apprehension was very soon confirmed; and next day, the 29th of March, 23 new cases, 14 men and 9 females, were lying in the St. Martine and St. Monica Wards, under the care of MM. Magendie, Honoré, and Bally.

Of these 14 men, 8 died the same day, and the remaining 6 the day after. One of the 9 women died the same day. Most of these patients, it may be remarked, came from the district of the Hotel de Ville, from the street of La Mortellerie, from the city; some belonged to districts less insalubrious, as the Gate of St. Denis, the street of Orleans St. Honoré, &c. Dissemination was manifest, and consequently it was necessary to admit some other influence beside that which is concentrated in a confined and isolated locality.

On the 30th, 40 new cases were received; 10 died the same day, and almost all the rest the ensuing day. The same day, (30th,) at midnight, 78 cholera patients were lying in the Hôtel-Dieu; and on the evening the following day, only 16 were in life, and expired in the course of the subsequent days. At this period, it must be observed, of 27 females only 19 died, while among 51 men there were 43 deaths. This alarming mortality depended not merely, as was asserted, on the uncertainty of the treatment; for most of the patients brought to the Hôtel-Dieu presented the symptoms of the most virulent form of the disease. In vain did we attempt to produce reaction, and to warm them by every means suggested by reason and experience; the violet tint of the countenance and the limbs continued; the voice was irrecoverably gone; the breathing slow and deep; the eye dull, and the eyelids half open. The serous discharges continued to exhaust the patient, who was quickly cut off amidst acute suffering from the cramps, and unabated præcordial anguish.

On the 31st, 50 new cases, 30 male and 20 female, were admitted; and it is remarkable that the proportion of admissions and mortality nearly observed this standard throughout. During these five days, therefore, the progress of the epidemic was rapid, and its commencement indicated a high degree of severity, and a wide extent of comprehension. Hitherto all the individuals attacked belonged to the working class, and they were generally middle-aged men, exhausted by labour and privations, badly fed and clothed, residing in unhealthy districts, neglecting every species of cleanliness, and guilty of frequent errors of diet. The majority had suffered before the first assault of the disease a diarrhœa of several days' duration, which had been neglected, or rather treated by wine, spirits, and other *stimuli*, resorted to by the common people in such cases.

The patients accommodated in the two wards already mentioned, remained only two days under the care of the physicians specified. All the heads of the faculty being assembled, resolved that a certain number of beds should be allotted to each; and in consequence thereof nine physicians and three surgeons divided the 168 beds contained in the two wards, making to each 14, or 7 men and 7 women. These physicians and surgeons were MM. Petit, Recamier, Gueneau de Mussy, Husson, Magendie, Honoré, Bally, Gendrin, Caillard, Dupuytren, Breschet, Sanson.

Each head of the service had his internal pupil and his externals. The number of hospital attendants was augmented, but it was soon discovered that these measures, instead of alleviating and accelerating the duty, deranged its regularity. Very varied prescriptions, very different methods, measures executed at the same time, or at different hours, produced a degree of confusion, which caused much suffering to the patients, and which the zeal and intelligence of the most able assistants could not prevent. On the 3d of April, after which it became imperative to distribute the patients in all the wards situate on the left

bank of the Seine, 388 patients had been treated in the wards of St. Martine and St. Monica, and next day 281 deaths were to be divided among the 12 physicians specified above. Some days after, one-half at least of the residual 107 had expired, and 3 score only quitted the hospital recovered.

We shall afterwards consider the therapeutic methods observed; at present we must advert to the pathological principles on which the treatment was founded, and which were sought in the comparison of the symptoms with the necroscopic appearances.

The first inspections, performed with the minutest care, showed that the brain, the lungs, the liver, the spleen, and the other parenchymatous organs were not the seat of any arterial or venous bloody congestion, that there was not even cadaverous turgescence or mechanical *stasis*, and already the modification undergone by the blood was perceptible. Of this blood the chambers of the heart and the large vessels contained a certain quantity, though less than usual; but it was not in mass; there was no fibrinous clots in the aorta or pulmonary veins; it was blacker than the ordinary venous blood; its consistence was that of broken down currant-jelly, that is, a species of pulp a little diffuent, but without trace of separation of the serum from the fibrine. The inner membrane of the vessels offered nothing indicating a morbid condition, and all the branches of the abdominal portal vein were empty.

On the other hand, the proper digestive apparatus, viz. the stomach and intestines, presented evident signs of active congestion. The gastro-enteric mucous membrane was injected of a rose colour, punctulated and sprinkled with arborescence of a bright red. There were many prominent patches of very distinct isolated follicles; and near the end of the *ileum* were all the anatomical characters of mucous inflammation of that portion of intestine. The whole tract of the intestine contained a large quantity of serous or sero-mucous fluid, tinged sometimes red, occasionally yellow, but most frequently turbid, whitish, depositing a flocculent pulverulent matter, as is done by a strong decoction of rice or an imperfectly strained emulsion. The large intestine appeared not unhealthy, and its contained fluid belonged to the *ileum*. The gall-bladder, without being distended, contained a blackish viscid fluid. The urinary bladder was uniformly empty, although the whole urinary apparatus betrayed no appreciable lesion. *Lastly*, the whole body was extremely rigid. The muscles formed through the skin bold reliefs, as in the most violent contractions. The fingers and toes were incurvated; the nails bluish; the countenance, pinched and contracted, retained the expression of suffering; and the eyes half covered by the eyelids presented the lustreless stare already observed in life.

The cerebro-spinal apparatus was the object of researches still more strict if possible. The brain proper was firm, punctulated with black blood. The gray substance rose-coloured, but all natural. Neither the *cerebellum*, nor the annular protuberance, nor the spinal bulb, bore any trace of lesion. The serous fluid of the ventricles, and of the ex-serous cavity of the spinal cord showed nothing remarkable. The same may be said of the chief nervous trunks of the extremities.

*Lastly*, several great sympathetics were dissected in their entire course, and convincing proof was obtained that they presented no visible lesion.

These researches were made without preconceived idea, and with the laudable intention of forming an exact estimate of the organic lesions of the individuals who became victims to *cholera*. It was thought that proof was given of *active congestion* of the digestive apparatus,—congestion, by means of which was explained the enormous sero-mucous secretion forming the basis of the evacuations exhausting so rapidly the choleric subjects. This bloody concentration was believed to have the effect of speedily robbing the blood of a large proportion of its mass and constituent principles, since the residue was manifestly less than usual, and had lost the characters of healthy blood. The disturbance of innervation, in consequence of which these changes supervened, though maintained by a distinguished surgeon, is mere supposition; and not

even an incipient proof or a plausible trace could be discovered in favour of this revived opinion, which must be regarded as a mere hypothesis.

We must therefore be satisfied with regarding as uniform a very active irritation of the small intestine, or a first degree of inflammation giving rise to peculiar phenomena. From this, consequently, was deduced the first rule of treatment, the object of which was to oppose this inflammation. We shall see, nevertheless, that, notwithstanding this opinion, the treatment adopted was far from being purely antiphlogistic.

On one hand, all the patients brought to the Hôtel-Dieu, by no means presented the same symptoms; and if, on the whole, they were attacked by the same disease, it was impossible for them all to be attacked in the same degree, or for the disease to assume exactly the same forms in all cases.

The first patients brought to the hospital were in a state of deep collapse, of general cold, with the circulation almost at a pause, the large arteries alone presenting feeble oscillations. The beats of the heart were scarcely heard; and the ear, applied to the chest, perceived only a dull sound, denoting that the ventricles did not expel the little blood they contained. These patients expired speedily, whatever efforts were made to warm them; and many thus died in six, eight, ten, or twelve hours at most. With these patients the first and most urgent indication was to reëstablish the circulation, to induce reëction in the sanguiferous and nervous system, and put a stop to that state of slow *asphyxia* which directly threatened life. In these circumstances, M. Magendie administered several glasses of spirituous punch, spoonfuls of hot spiced wine, frequently repeated, and of Malaga and other spirituous wines. These means were, however, very far from producing always the effect desired.

Patients, however, in whom the refrigerating period was less advanced, were also brought to the hospital; and these complained of acute pains in the epigastric region, and in that of the heart, as if the lower part of the chest was the seat of a sense of weight, which embarrassed at once the motions of the stomach and those of the heart. In these patients the pulse was more distinct than in the preceding class, the cramps of the legs were violent and frequent, agitation was extreme, and the vomitings were accompanied with intense anguish. In this form or degree of the disease, an indication for detraction of blood, either by the lancet, or by means of cupping, or by leeches, was believed to be found; and MM. Husson, Honoré, Gendrin, and others, had recourse to the antiphlogistic method with success.

Other patients appeared with an assemblage of very singular spasmodic symptoms. Cramps, occupying simultaneously or successively almost all the muscles of the trunk and extremities, appeared the leading symptom of the disorder; the patient was in incessant agitation, uttered piercing cries, rolled in his bed, and often even threw himself on the floor, without being able to obtain a moment's respite. In some, who had almost no vomiting or purging, the countenance was red and congested, the eye brilliant, the belly tense, and the urine suppressed; and, had not the precursors of the disease been almost like those observed in other cases, it might have been mistaken for another disorder. Though in these cases of spasmodic cholera it was still thought useful to draw blood, the urgency of controlling what was denominated nervous irritation was admitted; and in these circumstances, several physicians obtained good effects from the use of opium in large doses, long-continued baths, and numerous analogous means.

Lastly, some patients presented all the symptoms of *cholera* deemed inflammatory. Pain, aggravated by the slightest pressure, burning thirst, general heat, red tongue, and hard pulse; and in these circumstances the means employed were modified by the vigour of the subject and the period at which he was brought to the hospital.

Thus, some days of experience were sufficient to demonstrate this great truth, that in *cholera*, as in every other disease, the treatment, regulated by observation is, alone, good and practicable, and that it is absurd to adopt a uni-

form and general therapeutic system. Was the eruption of this formidable epidemic in Paris in 1832 requisite to furnish occasion to prove, that exclusive principles, always fallacious, are particularly so in the practice of medicine, and that the search for a specific may be abandoned with that for the philosopher's stone.

The principal indications now specified, forming the basis of some partial modes of treatment, we shall mention the more general ideas which served as the foundation of special methods. We do not allude to specifics, but to a mode of treatment with reference to etiological ideas more or less founded on observations of some isolated facts, or on analogy with other disorders, the ultimate nature of which is better understood.

Many physicians, for instance, regarded *cholera* as the result of a species of miasmatic poisoning, and on this supposition founded their treatment. The painter's colic is accompanied with symptoms similar in some points of view to those of cholera. Hence the idea of employing in the last affection the sulphate of *alumina*, sulphuric lemonade, and other remedies, which peculiarly modify the intestinal tube when under the influence of the oxides of lead. This method MM. Gendrin, Sanson, and others employed, and it must be admitted, without any success.

M. Dupuytren considering the most frequent symptom, that of the colliquative extenuating diarrhœa, as the one which most urgently demanded the attention of the practitioner, prescribed acetate of lead and the preparations of opium. He believed that these remedies, administered in large doses, would victoriously oppose the extreme determination to the small intestine, and re-establish the balance by the sole operation of their astringent and sedative properties. This theoretical view derived more or less plausibility from analogy; but it gave way under clinical experiment; and it was requisite to abandon it after some trials conducted with becoming precautions.

The therapeutic measures underwent several modifications suggested by the leading symptoms. Each physician had a peculiar method, and in this we observe great diversity, if not in substance, at least in form.

In the refrigerating period, M. Magendie gave internally diffusible stimulants; MM. Petit, Honoré, Gendrin, and several others, employed friction of the trunk and extremities with hot aromatic liquors; some physicians placed the patient in a vapour-bath; others enveloped him in woollen coverings, and conveyed under them, by means of an appropriate tube, a large supply of alcoholic vapour. Lastly, M. Recamier employed cold affusion, or at least affusion of water at 57, 58, or 59 degrees only, for one or two minutes over the whole surface; a method which produced energetic reaction, and almost instantaneously restored heat and sweat. The extremities of the patient were surrounded with hot bricks, hot smoothing-irons, bags filled with hot sand, bottles of hot water; and, in short, nothing was neglected to produce speedily the result.

At a period less advanced, when the patient, yet retaining a little heat, was suffering from vomiting and purging so profuse as to threaten immediate dissolution, means also very varied, and suggested by some peculiar systematic notions, were adopted. Thus, the physiological physicians applied leeches to the epigastrium, opened the veins of the arm, administered soothing drinks; and, in short, studied to allay the irritation of the digestive apparatus. Others, attaching less importance to these symptoms styled inflammatory, did not hesitate to employ means more active, more direct, and more likely to augment the disturbed action of the disordered organs. This revulsion, as the followers of M. Broussais termed it, brought about most happy changes. Tartrate of antimony, in the dose of 2 or 3 grains, ipecacuan, in a quantity varying from 15 to 18 grains to a scruple, and even more, was administered boldly, and with the happiest effect. In this M. Recamier imitated the Germans, who have long boasted the superiority of this substance in the treatment of dysentery, and other acute affections of the intestinal tube. The vomiting, increased at first, soon ceased, and with it the intestinal discharges; and gentle uniform warmth then

followed, the skin was covered by sweat, the cramps ceased, and tranquillity of the system was restored. These effects obtained in a great number of patients, induced almost all the other physicians to employ the same remedy; and at present ipecacuan is in frequent use in the treatment of cholera.

Under the influence of the same idea, the same physician employed the sulphate, and the carbonate of soda and of magnesia, in ordinary purgative doses. The choleric diarrhœa was by this very simple remedy very promptly controlled; and we owe to it numerous cures.

When the patient in the deepest collapse appears insensible to every stimulant, the electro-puncture has been used with some benefit; and to this M. Bally is indebted for reviving several patients in this hopeless condition. An agent still more active; namely, cauterization of the epigastrium was also employed; but M. Dupuytren, by whom it was used, has had no reason to commend it. Lastly, with the same object, several drops of ether saturated with camphor, were administered with apparent advantage by M. Recamier.

Besides the local bleeding, by means of leeches or cupping, and those practised at the arm and jugular vein by the lancet, arteriotomy was performed on a number of subjects, who, it must be confessed, appeared to derive from it no benefit. The temporal artery was opened by MM. Magendie, Recamier, Gendrin, and several others; and by this means some spoonfuls of rose-coloured blood, with impaired fluidity, trickled away as if from a venous tube. In two subjects, it was determined to open the radial artery a little above the articulation of the thumb, where it is superficial, and may be easily tied. It was then observed that this vascular trunk scarcely contained a feeble thread of blood, the motion of which was so much retarded, that the jet scarcely rose beyond the lips of the wound; the ventricular impulse was almost extinct, and, to obviate hæmorrhage, a simple compress and ordinary bandage was sufficient. The thin plastic blood scarcely reddened the two or three turns of the roller which covered the wound of the artery; when reaction began to appear, there was no hæmorrhage, properly so named; and ligature of the vessel was dispensed with as superfluous.

These facts are not new; and the surgeons of Berlin went a step further. The brachial and even the crural artery was opened; and it will scarcely be credited that a distinguished surgeon, whose name we conceal, ventured to open the carotid artery, because the other arterial trunks had furnished no blood. It is related that the latter arteries being equally deficient, the operator introduced a stylet into the aorta and left ventricle to rouse it to new contractions. Death took place on these manœuvres, although denied by one of the admirers of this surgical hardihood; and there was not time to see the patient sink under hæmorrhage.

Though arteriotomy is practicable in the treatment of severe *cholera*, it is probable that it ought not to be employed, because the arterial system is not the seat of the mischief. The venous blood is manifestly changed, while that of the arteries is merely deficient in quantity. If this were practicable, it would be more rational to attempt transfusion, than to deprive the system of the little stimulus left. But rational physicians, who admit as a therapeutic agent, that only which bears a relation to well-marked symptoms, will have recourse to suitable means; and we turn to those who particularly belong to this class.

We shall take a view, in the meantime, of the method employed by each of the physicians of the Hôtel-Dieu, and the results obtained in their different departments. We shall do so in reference to the peculiar circumstances presented, and which have influenced the numerical amount of the deaths and recoveries.

The first seven beds of the St. Martine Ward being under the care of M. Honoré, we shall begin with that honourable practitioner. M. Honoré distinguishing two well-marked periods in the progress of cholera, prescribed the following treatment. During the attacks, that is, when vomiting and looseness, cramps, refrigeration, and more or less *aphonia* were urgent, friction on the ex-

tremities and the præcordial region, from half hour to half hour, with flannel soaked in a mixture of two ounces of spirit of camphor, and half a drachm of tincture of cantharides; 2d, to administer every half hour *enemata*, consisting of rice decoction, 1 pint; extract of rhatany, 2 drachms; laudanum, 40 drops, and ether, 4 drachms—the whole divided into 4 *enemata*; 3d, every half hour a spoonful of Malaga wine; 4th, carbonated water, or sugared tea for drink; and 5th, the anti-emetic of Dehaen, with 15 drops of laudanum, and half a drachm of the anodyne liquor of Hoffmann. If, in spite of all these means, the vomiting continues, a large blister was applied to the middle of the back. Lastly, there was administered in the night, in spoonfuls, a potion consisting of Malaga wine for its basis, and a large proportion of the syrup of *diacodium*; then revellents were applied to the feet, &c.

In the period of reaction, the treatment was regulated by the leading symptoms. Blood, for instance, was drawn from the arm, or by leeches from the epigastric or iliac regions, according as symptoms of morbid congestion appeared in different points of the digestive apparatus. M. Honoré, finally, has generalized in some degree his opinion on the general treatment of *cholera* by confining it to three indications;—to restore warmth, to oppose by all possible means the concentration which tends to the centre, and then at a subsequent period to moderate the effort of reaction which takes place in the opposite direction.

About 40 patients of both sexes were treated in the beds allotted to M. Honoré during the first seven days of the epidemic; and half of the number expired. It must be mentioned that four or five individuals at least were brought dying, and remained only one or two hours in the ward, so that to them no cure could be administered. After this period, that is, during the succeeding eight days, nearly a like number of patients entered the same division, and the results were the same. It must, therefore, be admitted that this mode of treatment has been at once one of the most simple and the most successful. This observation is not new; but its repetition at present is not superfluous.

M. Gendrin, who comes next in the numerical series, distinguishes in general four degrees of the disease; precursors lasting for days; vomiting and cramps; then violence of the face and extremities; and, lastly, reaction. Half an ounce of sulphate of *alumina* was dissolved in a mixture consisting of two ounces of barley water, and two ounces of syrup of quinces, with three grains of the bare extract, and a spoonful was given every half hour in a glass of cold water, which was also used for drink. A bladder full of pounded ice was applied to the belly, and the extremities were vigorously rubbed with a mixture of equal parts of the balsam of Fioraventi and traumatic alcohol. Lastly, the patients in stupor and *asphyxia* were subjected to the cold affusion for one or two minutes.

These measures were not followed with all the success desired; and the same physician afterwards varied his directions considerably. Latterly, he appeared to confide for the treatment of the early period of the disease in blood-letting, energetic revellents to the inferior extremities, and the internal use of ipecacuan. These means furnished favourable results, but only when the intensity of the epidemic appeared to abate. M. Laberge, resident pupil of M. Gendrin, has stated, that at first one cure only was obtained among seven or eight patients.

The following beds belonging to M. Dupuytren, were occupied by a very great number of patients with severe symptoms, and of whom, consequently, a considerable proportion, more than two-thirds, sunk. A certain number, indeed, of these choleric cases brought moribund, expired either on the stairs, while they were being conducted to the ward, or on the litter, before there was time to undress them; and these cases, though reckoned in administrative statistics, ought to be deducted from the medical report. Documents afterwards published by M. Dupuytren show, that from the 7th of April to the 13th, he has lost a little more than a third of his patients,—a result which restores the equilibrium, and shows that the numerical mortality has been raised only in



consequence of accident which placed on his beds dead subjects, or patients in the last agonies.

The treatment of M. Dupuytren, besides the acetate of lead, already mentioned, and cauterization of the epigastrium, which was practised in one case only, consisted in friction of the extremities with flannel soaked in a concentrated decoction of mustard with alcohol, covering the body with emollient fomentations, leeches applied where pain was felt, and lastly, drink of infusion of lime-tree flowers, edulcorated with syrup of *diacodium*, in the rate of one or two ounces to the pint of pisan. Subsequently the professor announced that he confined himself to follow indications as they rose, and abandoned all thought of specific cure.

M. Petit, perhaps, was the first to entertain the opinion of acting in a continuous manner on the spinal cord, and producing changes in the phenomena of innervation. He consequently caused to be placed along the whole part of the spine a piece of cloth soaked in a liniment composed of one ounce of oil of turpentine, and a drachm of hartshorn. Over this was drawn a very hot smoothing-iron; and the result is an instantaneous evaporation of a great part of the liniment, which then acts strongly on the skin of this region, and produces speedy vesication. By this ingenious method the spinal cord is irritated, and very soon under this influence the heat returns, the vomiting and cramps abate, the circulation is reëstablished, and the patient experiences considerable improvement. Its action is further promoted by various accessory means, such as hot bricks, previously enveloped in cloths dipped in vinegar, round the extremities, frictions, with decoction of mustard, stimulated by hartshorn, and the internal use of balm and mint tea. At the same time, a mixture consisting of distilled lime-tree and balm waters, two ounces each, twenty drops of laudanum, and one ounce of etherated syrup is given in spoonfuls every hour, and frictions by a liniment composed of two ounces of camphorated chamomile, a drachm of laudanum, and a drachm of hartshorn, are actively used.

Though, like all the physicians of the Hôtel-Dieu, M. Petit lost during the first days of the epidemic a very great number of patients, afterwards he was more fortunate than many among them, and probably in consequence of his method of treatment. According to a notice read by him to the Academy of Medicine, on the 10th of April, his cures were in the proportion of two in three. We repeat that this can apply only to the patients admitted since the 5th of April; for, previous to that in the St. Martine and St. Monica Wards, the proportion was inverted.

M. Husson employed at first the diffusible stimulants, tonics, and external revellents or irritants. The unsuccessful results were very numerous; and other methods were practised. He applied leeches, bled, and administered mild drinks; he had recourse then to the anti-emetic potion of Riverius; then to protracted baths; to anodyne clysters, and, under the influence of this method, he saw several recoveries take place. They were indeed few; for, on the fourteenth day of the epidemic, of 140 choleric patients placed on his beds, he counted only 5 or 6 well-established cures. Too much reliance must not be placed on convalescent cases, for they often expire very quickly, without time being given almost for a relapse.

The treatment pursued by M. Magendie enjoys, in the meantime, a celebrity quite popular. Journals of all ranks have proclaimed the good effects of punch; and they might be believed if we knew how far publications of this sort must be trusted. A diffusible stimulant given in the cold stage produces reaction; but it must not from this be inferred that all the patients are thus cured. Like all his colleagues of the Hôtel-Dieu, M. Magendie witnessed more than one-half of his choleric patients expire; and, modifying his *panacea*, he now gives as a drink a mixture of two ounces of acetate of ammonia, one pound of sugar, and four litres (8 pints) of infusion of chamomile. Occasionally he substitutes



for the punch a vinous liquor sugared and spiced with tincture of *canella*, in the proportion of two ounces to two *litres*, or four pints of wine, of which a small glassful is given every hour.

This treatment has been followed by a degree of reaction which it is often difficult to controul. The circulation excited by alcohol soon produces congestions in the head, and digestive apparatus; and more than one patient sunk with delirium, and afterwards deep coma. This congestive state, local and general depletion were always as inadequate to remedy as the application of cold to the head, and the most active revellent irritants to the feet.

M. Gueneau de Mussy, with his usual sagacity, followed the indications, and treated the principal symptoms as they required. Like M. Honoré he obtained favourable results from this progress; he modified the *formulæ* according to the particular cases which were presented; and recognising the uselessness of a great display of resources against cases which the simplest examination showed to be fatal, he was contented to treat those which might reasonably become so.

M. Bally has tried the efficacy of many energetic agents. *Opium*, given in large doses by all channels, he very soon abandoned as injurious in the period of collapse, and useless in others. The *sulphate of quinine*, in doses of from 30 to 40 grains, produced no benefit in four patients, and was also abandoned. The oil of *croton tiglium*, so much commended by several physicians of the East India Company's service, was of no avail to a poor woman, who quickly expired. Local and general bleedings, iced water, and other means were successively relinquished. *Lastly*, recourse was had to galvanism, which appeared to revive with promptitude two or three patients brought in a very advanced stage of the disease; but it has rarely been employed since; and M. Bally satisfies himself with general measures, excepting the modifications which are the result of his peculiar therapeutical ideas. In conclusion, if he has lost many more cases than his colleagues, it partly depends on this circumstance, that the 30 or 40 first choleric cases brought to the Hôtel-Dieu were treated by him alone, and that, with a single exception, all of these died.

M. Recamier found, in these afflicting circumstances, a new occasion to demonstrate the fertility of the resources of his inventive mind. Has this celebrated practitioner been more fortunate in results? That we cannot assert. In the mild form, or in the period of onset, he draws blood from the veins, till this fluid appears to become red in the air; he gives every second hour eight drops of laudanum in four spoonfuls of rich mucilage or gum arabic, aromatized with peppermint water. He warms the patient to restore heat and transpiration; he applies to the belly very hot cataplasms slightly stimulated with mustard, or a volatile camphorated irritating liniment; he orders repeated injections with decoction of bran, of starch, or of bread crumb, adding a little laudanum. If the diarrhœa continues, he exhibits half an ounce of *arnica* root and one-fourth of a grain of *nux vomica*, gradually augmented afterwards.

In violent *cholera*, or the blue stage, M. Recamier still bleeds a little, but cautiously; he excites reaction by means of affusion for a single minute of water at 58 or 59° F., and after drying the patient, and placing him in a warmed bed, the skin is very soon covered with sweat. With cold rice water for drink, a spoonful of a solution of sulphate or of hydrochlorate of soda, according to the state of the stomach, was given every quarter of an hour. Reaction being established, the treatment of the first stage is gradually introduced, and the chief study is then to moderate the congestions which take place on the different organs.

M. Recamier states that he has ascertained that opium, camphorated ether, acetate of ammonia, sulphate of quinine, and the other fixed or diffusible tonics, are absolutely useless in the blue period, and that sinapisms and all the rubefacients are equally unavailing. The small number of recoveries even which he obtained in the commencement of the epidemic, appears to him to be owing to the cold affusion, the iced drinks, and the blood-letting. Afterwards the

same physician had recourse to sulphate of soda in strongly purgative doses, to ipecacuan in powder and decoction, and massing or kneading the surface instead of friction; but he contends that the different periods of the disease should be well distinguished. The blue period is, in his opinion, utterly beyond the resources of art; vital resistance is extinct, and the means employed to excite its return serve only to accelerate death, because the organism does not obey them. It is as if a whip struck a corpse.

M. Sanson began by prescribing a very hot and strongly sinapised *pediluvium*, or by subjecting the patient for some minutes to the cold affusion. He then ordered a spoonful of a mixture of four ounces of the jalap of diacodium, and one drachm of sulphate of alumina, to be given every hour; two clysters daily of decoction of poppy heads, and a drachm and a half of sulphate of alumina, and rice decoction, for drink. M. Sanson remarked that the aluminous mixture, which has a very nauseous taste, appeared agreeable to the patients for some time, but became soon insupportable. In the first case, there was endurance of the stomach, and it ceased as soon as the symptoms were abated. Under the influence of this treatment, as of all the rest, the half at least of the patients died.

M. Breschet, who had at first adopted the electro-puncture, very soon abandoned this remedy, the success of which was only temporary and ineffectual. He gave diffusible stimulants of every kind; he bled, cupped, and scarified the epigastric region, and gave cool liquors for drink. He employed volatile liniments, affusions, external revellents of every kind, but nothing in particular.

We may say as much of M. Caillard, who, engaged by the nature of his duties at the Hôtel-Dieu, leaves to zealous and intelligent pupils the charge of carrying into effect a plan of treatment, the outline of which he concert with them. These gentlemen have not had occasion to regret the loss of a greater number of patients than the other physicians; and the result affords a new proof of the little efficacy of any therapeutic method in cases of severe cholera.

In conclusion, to establish in a general manner the value of the different curative methods adopted at the Hôtel-Dieu; and to avoid an unjust division of unsuccessful issues among the 12 heads of the service, we shall give the general results, leaving to each of these gentlemen to furnish the individual returns. Thus, on the 17th April, at midnight, 1771 choleric patients had been admitted into the Hôtel-Dieu; of this number 1054 died; 344 went out cured or convalescent, and the residual 373 are still under treatment, and several must die. This shows that these deaths are in the proportion of two-thirds.

Professor Chomel, who conducts at the Hôtel-Dieu the course of clinical medicine for the faculty, had received in his wards during the first days of the epidemic, two choleric cases of the inflammatory character, which, treated by antiphlogistic measures, underwent at first a remarkable improvement. In one patient, typhoid symptoms soon supervened, and carried him off on the fifth day of his convalescence. The other sunk in like manner, after showing remarkable improvement.

The distribution of the choleric patients in the first two wards, being opposed to that of which M. Chomel had charge, it was only afterwards that a division of the St. Paul ward was assigned him. In this division remedial means were wisely afforded; and after a conscientious examination, we have found that the treatment of this distinguished practitioner, though neither extraordinary, nor very energetic, nor incendiary, nor extenuating, furnished neither more fatal cases nor less success, than that of physicians who announced pompous results from particular methods.

In all the cases of cholera deemed inflammatory, that is, with preservation of pulse and heat, cramps and vomiting, &c. M. Chomel prescribed blood-letting, and applied leeches to the epigastrium, and gave opium in pills. For drink he gave solution of gum syrup; the belly was covered with cataplasms, and the legs were rubbed with camphorated oil of chamomile.

In the *cholera algida*, or chill form, he employed decoction of coffee, and a blister on the spine, from the nape to the middle of the dorsal region. External warmth was applied by all means. The gum-syrup solution formed the basis of the fluids drunk, though tea and lime-tree infusion were also given, and for the diarrhoea rice-ptisan with opium. In some cases of chill cholera, M. Chomel employs the blister to the epigastric region, and placed on the exposed *dérma* half a grain of acetate of morphia. In cases with delirium he applied leeches to the mastoid processes, and, in short, founded his prescriptions on the character of the principal symptoms.

We shall be able only subsequently to furnish an exact statement of the number and kind of the patients treated in the division of M. Chomel; but we may be assured that its exactness will be unfortunately too rare in the actual circumstances. We shall in the meantime advert to the results obtained in other hospitals.

*La Charité.*—The central position of this hospital brought to it a great number of patients; and on the 27th there were 3 cases. From this period to the 2d April, 30 new cases were admitted, on the disposition of which the same precautions were observed as at the Hôtel-Dieu. Two wards, St. Jean de Dieu for men, St. Magdalene for women, were selected as the most salubrious and the best situate to facilitate the duty. MM. Fouquier, Lerminier, Rullier, Rayer, and Dance, shared the beds in equal numbers.

Entertaining nearly the same opinions on the mode of opposing the disease, these practitioners studied to produce reaction as promptly as possible, and to controul it when it displayed excessive violence. M. Fouquier prescribed in a potion of aromatic distilled water, two drachms of acetate of ammonia, and one ounce of canelion water, to be given in spoonfuls. He ordered also three or four grains of the watery extract of opium, in divided doses, during the day; several sinapisms at the same time to the legs, to be renewed if needful; frictions with camphorated spirit, and infusion of chamomile for common drink. When reaction was speedy and vigorous, he ordered fifteen or twenty leeches to the epigastrium.

M. Rullier caused the bodies of his patients to be rubbed with a liniment consisting of tincture of bark and camphor; he applied sinapisms, and administered every half hour spoonfuls of a mixture consisting of a scruple of sulphuric ether, a drachm of laudanum, and an ounce and a half of distilled water of lime-tree and mint, in a decoction of poppy heads properly edulcorated.

After frictions and other external means of warming the patients, M. Lerminier caused them to drink a small glassful every hour of a mixture composed of two ounces of syrup of valerian, two drachms of alcohol, and twenty-four drops of *aqua ammonia*, in two pints of infusion of mint and orange flowers. In the intervals, or instead of this stimulating ptisan, he prescribed a mixture consisting of two ounces of peppermint water, half an ounce of acetate of ammonia, two drachms of sulphuric ether, two drachms of laudanum, and two ounces of syrup of eyebright. By these remedies a good degree of heat was promptly obtained, and to them more than one patient owed his recovery.

We wish we could detail the treatment pursued by the young and unfortunate M. Dance, who was to have published in the Archives the result of his observations on *cholera*; and the acuteness and conscientiousness with which they would be made, are well known. A deplorable event deprives us of the information to be furnished by an observer so judicious; and we know only that the treatment which he had begun to follow, was that of M. Fouquier already mentioned.\*

By a note of M. Danyau, head of the clinical department of La Charité, we learn, that of 83 cases admitted under M. Dance, 40 died, 12 were cured, and the rest were under treatment. Among the 40 deaths, two-thirds died

\* M. Dance, physician to the Cochin Hospital, was attacked with cholera, about the beginning of April, and died, after a painful struggle, on the 18th.

after remaining less than three hours in the hospital, part of the residue in twenty-four hours, and none survived the third day. M. Dance derived great advantage from the application of dry cupping applied round the base of the chest; and M. Danyau, who continued his duty, has much reason to congratulate himself on the use of the means which has superseded *asphyxia*, and revived the action of the heart. M. Dance had almost entirely renounced the employment of opium, especially by the mouth; and he gave cold lemonade, Seltzer water, and ice in pieces; and these means almost always succeeded in checking the vomiting.

M. Rayer, one of the physicians who has in the best spirit observed cholera, has given us a note, which we almost literally transcribe, because it constitutes one of the most useful documents on the treatment to be followed in the different forms of the disease.

The first choleric cases entrusted to the care of M. Rayer, were mostly in a desperate state. They were old men dying, or adults with the most severe symptoms of cholera. At first glance, and at any other period, they might have been taken for drowned persons expiring. Next day, and the following one, similar admissions continued; but several patients were now distinguished in whom life appeared less nearly extinct; and several hospital patients were attacked, and presented successively the several symptoms of the different stages. Comparing these facts with some others much less severe observed in the city, M. Rayer perceived, that it was less important to seek a remedy against cholera than to study carefully its individual varieties, the shades, the degrees, and the complications, in order to adapt to its periods, or its various forms, a distinct and rational treatment. With this object, and to distinguish the principal conditions in which each patient was at the moment of admission, he fixed on the leaf of his diagnostic register; *slight cholera*, or *the first period of cholera*; *severe or chill cholera*; *simple or complicated cholera*; *cholera slight at beginning*, or with threatening of the second; and the adopted peculiar modes of treatment for each of these morbid conditions.

In *slight cholera*, or *the first period*, distinguished by the feeling of a bar across the pit of the stomach, and giddiness, soon followed by thirst, purging, and vomiting, more or less abundant and repeated, by the continuance of the pulse almost natural, or only slightly enfeebled, with little change of voice, cooling of the head, or in the colour of the nails and skin of the hands,—M. Rayer administers opiates and rhatany root in draught, ptisan, or clyster, as the evacuations take place upwards or downwards. At the same time he recommends maintaining a gentle degree of heat of the surface; even to raise the temperature, and excite sweating by the aid of hot bricks at the flanks, and bags of hot bran on the belly; cramps are to be stopped by the application of sinapisms; and thus a cure almost uniformly is effected in children and persons of mature age, unless the symptoms of the second period appear, which usually happen in old men, or in men of mature age but deeply impaired constitution.

In *severe or chill cholera*, marked by burning thirst, discharges of watery, turbid, whitish matter upwards and downwards, and by suppressed urine, &c. M. Rayer orders the application of four sinapisms, two to the legs and two to the forearm, compresses impregnated with hartshorn on the chest, etherated Malaga wine given in spoonfuls every two hours, less frequently if it is not borne; decoction of rhatany acidulated with citron-juice; dry frictions and warmth to the surface; and clysters of rhatany, etherated and opiated. By these means reaction may be developed, unless in persons beyond 70, in whom life is extinguished almost directly by the cold stage of the disease. In one person only beyond 70, a woman of 74, did M. Rayer witness reaction established.

When reaction takes place it is requisite to maintain it, and yet to keep it within due bounds; and unless this is done, local determinations and violent inflammations,—*secondary disorders*, greatly more frequent now than at the commencement of the epidemic, are established; and existing diseases are at the

same time aggravated. As a secondary disease, M. Rayer observed among about 200 cholera patients, one acute *peritonitis*, one *amygdulitis*, two cases of *erysipelas* of the face, three cases of *pneumonia*, several of *gastritis*, and a greater number of *cerebral affections*, slight or severe. After death he never met inflammation of the *spinal cord*, or the great sympathetic. To watch the arising symptoms of these diseases, M. Rayer performed two visits daily to the hospital; and in the interval the cases were observed by an intelligent pupil.

According to M. Rayer the cerebral affections observed after the chill stage have a *double origin*. In one the most rare, (*the choleric cerebral state*,) in consequence of reaction, feeble or incomplete, the patients retain a choleric colour, fall into a state of stupor and debility, with furred tongue and brown coating of the teeth, the face cold, and the radial pulse feeble; and if this state continues some days, the patients present the expression symptomatic of the third period of ileo-glandular inflammation, *dothin-enteritis*; and after death no visible lesion was found in the brain and its membranes. In the second case, (*cerebral congestion*,) in consequence of powerful reaction, spontaneous or induced by art, the patient becomes dull and stupid; the face is red and hot, especially in the evening, the pulse more distinct, and the eyes injected; agitation and sometimes delirium take place in the night, with red dry tongue, thirst, &c.; and after death in general the cerebral veins are injected, and sometimes the cerebral substance is of a rose-red tint, with or without serous fluid in the cerebral cavities. In the first case M. Rayer ordered blisters to the inside of the legs, if the sinapisms employed in the chill period had not vesicated, vinous water for drink, and clysters of etherated rhatany decoction. In the second state, and sometimes before its development, from the first moment of strong reaction before the appearance of cerebral symptoms, M. Rayer prescribed warmth to the feet, cold by compresses, or ice to the forehead for several hours, especially in the evening, or leeches behind the ears, and keeping the patient up during the day if possible. Local inflammations were observed to be more severe in choleric subjects than in any other condition; and blood-letting, though urgently indicated, proved speedily fatal. A choleric patient attacked by *pneumonia* of the left side, died some hours after blood-letting; and the inferior lobe of the lung was found condensed and infiltrated with black violet-coloured blood, similar to mulberry juice.

M. Rayer saw cholera induce abortion in pregnant females, supervene at the moment of labour, and the infant born dead, and in those suckling gave rise to the most severe and fatal symptoms. Cholera appearing in persons already attacked with other affections, always belongs to the first class.

Occasionally the first disease disappears after the cure of the cholera, as happened to an Englishman labouring under tertian fever; and in other cases it is little modified, as occurred in a young person with the third degree of *pneumonia*, and in whom, after the cure of the cholera, resolution proceeded. Lastly, the original disease may be unmodified, as occurred in several consumptive subjects who survived the choleric attack, and in two persons with itch, who contracted the epidemic disease.

*De la Pitié*.—This hospital, situate near several very populous quarters, early received a great number of patients, who filled two wards. MM. Andral, Bouillaud, Louis, Clement, Parent-du-Chatelet, and Serres, as physicians, and MM. Lisfranc and Velpeau, among the surgeons, had the equal charge of the beds, and they determined that a physician and a surgeon should be always in attendance at the hospital to minister to the patients brought. In the first four cases, brought on Thursday, 29th of March, M. Serres prescribed infusion of chamomile, and a draught of ether and laudanum in valerian and mint water. Three of these died the same day, and the fourth had favourable reaction, and went out well at the end of eight or ten days.

The physicians of the hospital adopted at first a uniform mode of treatment, the basis of their remedies being warm vegetable diluents, with opium by the mouth and by clyster, and warming the beds by means of alcoholic vapour. In-

dependent of the obvious impropriety of so general a mode of management, without regard to the character of individual cases, narcotism quickly appeared in the majority, without arresting the unfavourable symptoms of the disease. This method was therefore abandoned; and each physician undertook the treatment of twelve patients, six of each sex, according to the symptoms and the stage of the disease.

M. Andral substituted for the narcotic potion a mixture composed of one drachm of acetate of ammonia, fifteen grains of sulphate of quinine, twenty drops of sulphuric ether, and twenty grains of camphor; allowed cold lemonade; and caused the extremities to be rubbed with tincture of cantharides. For profuse diarrhoea he ordered clysters, containing each twenty drops of laudanum, and twenty grains of sulphate of quinine. During reaction, blood-letting, local or general, was employed according to circumstances. At the onset of the disease, M. Andral at first employed blood-letting, and afterwards ipecacuan.

M. Bouillaud found in the first dissections sufficient reason to employ antiphlogistic means freely, with revellents and opiates only; and on the 6th of April, he had already inspected the bodies of more than forty victims of the disease. Though he maintains that inflammation of the intestinal mucous membrane performs an important part on the disease, and makes one of its essential elements, he admits that the antiphlogistic method is useful only at the onset of the disease, before the chill stage. Leeches to the epigastric region repeated, if requisite, four or five times, iced liquors, currant water, emollient cataplasms and clysters, slightly narcotized, and a strict diet, are his chief remedial means. In severe cases, however, he allows weak coffee, and cauterizes the region of the spine after the method of M. Petit; and under this application, breathing and the motion of the heart was restored in individuals who appeared dead.

M. Clement placed great reliance on the preparations of quinine, which were applied endermically when they seemed to augment vomiting; and in one case fifty grains were applied to the epigastrium, thighs, &c.; in others cases by the mouth and by clyster.

M. Serres employed the antiemetic draught of *Riverius*, tartaric and citric acids, blisters and sinapisms, during collapse, and blood-letting, general and local, in the stage of reaction.

M. Parent-du-Chatelet prescribes, in the severe period, alcoholized lemonade, an etherated draught, Madeira, a clyster of rice water, with extract of rhatany and laudanum, and friction; during reaction, emollient liquids and venesection, if requisite. These means have been successful in many cases, and have been adequate to restore some of those who were narcotized during the treatment of the first days of the epidemic.

It has been impossible hitherto to obtain accurate returns of the number of cases of both sexes treated under M. Louis; but, according to the statements of M. Eager, his pupil, with a sufficient number of blue cases, the instances of ordinary cholera were numerous. The general treatment of the cold stage consisted in friction and hot cloths externally, alcohol and laudanum draughts internally, ice for checking the vomiting, and local and general bleeding, which appeared to relieve the oppression, but which was generally unavailing when the radial artery had ceased to beat. During reaction the disposition to local congestion was opposed by local and general blood-letting, which sometimes succeeded, but more frequently failed.

In the nescropic inspections of this physician, the same results were almost uniformly remarked. The intestinal mucous membrane of the small or large intestines was commonly ecchymosed; in other cases the submucous cellular tissue was much injected; the *plicæ* of the jejunum sometimes remarkably injected; the mesenteric vessels, the superior and inferior *cavæ*, loaded with dark-coloured blood; the heart filled with black coagulated blood; the lungs much obstructed with black blood; the bladder remarkably retracted, but its mucous membrane sound; the liver slightly injected; the gall-bladder distended with

black ropy bile; the Peyerian glands usually well-marked, distinct and prominent; violet-red patches in various points of the intestinal mucous membrane; the gastric mucous membrane, like the intestinal, more or less reddened, and often remarkably mammillated. The brain, sometimes injected, contained serous fluid, more or less clear. The skin was violet-coloured; and tetanic rigidity of the extremities was always distinct.

M. Velpeau, like all his colleagues, varied his treatment according to the indications. After the 3d of April, for the opiate he substituted mercurial frictions apparently without benefit. His general mode of treatment consisted, after rolling the patient in flannel, in sinapisms to the feet, knees, and thighs, blistering the epigastrium, clysters of sulphate of quinine, laudanum, and camphor, repeated as required, aromatic diluents, and the endermal use of quinine. By these means several, apparently dying, recovered. M. Velpeau tried charcoal internally, punch, and large doses of calomel without advantage.

The supposition of M. Reveille Parise, that persons with cauterized issues, blisters, or even old wounds, are not attacked by cholera, was disproved by the experience of M. Velpeau, who saw six women attacked in a surgical ward where they were kept for old ulcers and other diseases with established suppuration.

Between the 11th and 18th of April inclusive, M. Velpeau lost 11 of 30 choleric patients; 6 went out well, 5 were convalescent, and 8 remained under treatment; and in the two latter divisions several deaths did take place, and reduced the number to one-half. This proportion is small, and all candid physicians agree that it is often much more. It remains, nevertheless, to be told what number of these cases were severe, what number were women, and at what period they were brought to the hospital; and it is further to be remarked, that the mortality at the time specified was less than at the beginning of the epidemic. The following sketch by M. V. gives a general idea of the cases treated at La Pitié.

Between the 30th of March and the 15th of April, 592 choleric cases were admitted into the hospital at La Pitié; and of this number 103 went out cured, 176 remain under treatment, and 313 died. During the first week they presented in mass with vomiting, diarrhœa of very fluid white discharges, cramps in the arms, colic pains, hollow eyes, icy cold of the head and arms, violet tint of the face and hands, thready or insensible pulse, and extinct voice. Afterwards this assemblage of symptoms was no longer observed in so large a proportion. Blueness and chillness were wanting in many of those admitted the last week. Some had only profuse exhausting diarrhœa with the choleric characters. Some were distressed by nausea and cramps, and had a bluish tint. Others colliquesced under profuse sweating, which was occasionally cold and clammy. Some with expressive look, complained of acute tenderness of the epigastrium, and burning heat all over. Lastly, in this as in other hospitals, we saw cases which proceeded at once to the highest degree, and in all intermediate shades; and it is impossible to distinguish between the cases of genuine *cholera* and the cholericoid. Many persons, after undergoing the first period for five or six days, became victims of the second,—showing that they are probably only different degrees of the same disease.

As to predisposing and exciting causes, and hygienic conditions, we have nothing definitive or conclusive. Old men, valetudinarians, drunkards, ill-clothed and ill-fed subjects, who at first afforded so many cases, were soon accompanied in their calamitous attacks by persons of every age, and of all constitutions, who, without being in affluence, observed, nevertheless, substantial regimen, and led regular lives. They came from the best situate streets, (*la rue Copeau, la rue de Boulanger,*) as from the most unhealthy. They were of all professions. Women, who formed only a fourth part at first, terminated in a much larger proportion. We had only three patients between eight and fifteen years; and at this date, (17th of April,) we have all the varieties enumerated above. The livid tint is not so rare as some persons have asserted; and four cases of six received



yesterday presented it in the highest degree. One person, though with all the other symptoms of severe *cholera*, has only *nausea*. A woman who had merely vomiting and cramps, without diarrhœa, died, nevertheless, this morning after thirty hours of illness. The number, however, of those who have only profuse discharges, slight cramps, without lividity or extinction of the pulse, and who recover, has sensibly increased for some days.

Patients die at two distinct periods. Either struck as if with lightning they die in agony before reaction, or heat indicates the return of the circulation; or after being painfully rescued from the first state so far as to seem out of danger, they relapse either into stupor with depression, or into delirium and adynamy, then linger a few days, and perish like others in defiance of the most varied modes of treatment.

One patient of this class having ceased to vomit, to be purged, and to suffer, having got rid of the blue colour and cadaverous look for two days, fell into a state of *coma vigil*, without delirium and raving, and without dry mouth, and died at the end of forty-eight hours without other symptoms. Another, after three days of improvement, died as if suffocated by œdematous *angina*, though the throat presented no change. A third case, which seemed for two days to be convalescent, was on the third day in a state of listlessness, of stupor, and agitation, which only ended with death in the evening. Lastly, they seem to be stifled under the influence of violent congestion, either of the brain, or of the lungs, or of some other organ.

In the first period, the tongue may be pale, smooth, nearly natural in some, and covered with grayish or yellowish thin fur in others. After reaction it may be slimy and whitish, red and punctulated on the edges, grayish, black, yellow and moist,—or unchanged. It is crusted and parched in a small number.

The necroscopic appearances are pretty uniform. In most subjects the mucous membrane of the digestive passages is punctulated with minute ecchymotic spots, more or less approximated in its whole tract, and it may present large patches more or less intensely red, occasionally approaching to dark crimson. On Tuesday and Wednesday, for instance, I found in three subjects the stomach as black as coal, from the *cardia* to the *duodenum*, less so at the small arch, more at the large *fundus*, while neither washing nor friction could diminish this tint, which was without evident thickening or softening of the tissue. The blood appeared fixed in the capillaries, and the whole membranous surface was ecchymosed on the free margin of the *rugæ* as well as on their intervals. Great part of the small intestine presented the same appearance; but the colon was scarcely changed.

In others, though coloration was almost entirely deficient, the mucous membrane could not be termed sound. Its *villi*, thicker and more prominent, gave it a strongly-marked villous character, though it was whitish, of a dull white, or merely dotted red. The red or bluish tint appears, all other circumstances being equal, to be deeper as the body is inspected later after death. The Peyerian glands were developed without manifest change. The lymphatic glands were unaltered; the system of the portal vein much obstructed. The bladder was empty and shrivelled; in one case only was it distended: and in other respects sound. Engorgement and sometimes *emphysema* of the lungs, *ecchymosis* of the heart, and black blood in its chambers, and more serous fluid than usual between the folds of the vertebral arachnoid, and in the cerebral ventricles and subarachnoid tissue were the other most ordinary appearances. The contents of the intestinal tube are well known.

The *Hospital of St. Louis* received many choleric cases, which were at first admitted in two wards, but which were afterwards dispersed in all the divisions. Here, as elsewhere, very opposite methods of treatment were followed with nearly equal degrees of success.

Alibert, regarding *cholera* as a pernicious intermittent, after the example of Torti, who made it a particular species, gave sulphate of quinine in grain pills every hour, *cinchona* wine in spoonfuls every half hour, and *cinchona* glysters,

with external warmth. The actual advantages of this method are not known, as it was soon modified by combining it with the preliminary exhibition of ipecacuan, when it is said to have been very successful.

M. Bielt, who had the charge of a ward of twenty-eight beds favourably arranged, well-aired, and abundantly provided with the means of attendance, has treated a considerable number of choleric cases, the total amount of which, however, is not yet given. Adopting the idea of miasmatic poisoning as the cause of cholera, this physician administered internally charcoal in doses of half a drachm every hour, with the effect of checking the diarrhœa, and exciting the flow of bile, but not greatly controlling the cramps and vomiting. He states, also, that he has given the subnitrates of bismuth in doses of six or eight grains every two hours, with the effect of controlling the cramps. Calomel and opium was given in a few cases. In cases of local congestion, blood was drawn by cupping from the ileo-cæcal region, and by leeches from the anus. Of nineteen cases, thirteen are said to have been cured; but the precise mode of treatment is not given.

M. Gerdy, second surgeon of this hospital, received from the 6th to the 14th of April 103 cases; and of these 20 died at the close of a few hours, and consequently could not display the effects of treatment; 16 died after one or more days of treatment; 23 went out cured; and lastly, 44 were still in hospital at the date of the report, and among these many truly convalescent. The number of deaths rose to about one-third of the whole,—a smaller proportion than elsewhere, and less still if the number of deaths be reduced by deducting those who expired without any treatment. The mortality is then 1 in 5 or 6 cases.

The first twenty-seven cases were admitted at the most severe period of the epidemic, all with vomiting, pain of the epigastrium or belly, frequent stools, suppression of urine, feeble or extinct pulse, violescence of the face and extremities, coldness, and cramps. The subsequent group rarely offered this assemblage of symptoms, which then occurred separately or successively; and though the disease was less violent, many still died in some hours, eleven, in short, of twenty, or more than a half.

Viewing the disease as a species of *asphyxia*, produced by affection of the nervous system, M. Gerdy employed friction by an irritating, but not vesicating liniment, to recal heat; large blisters along the vertebral column to stimulate the organs of the nerves, and excite respiration and circulation, sinapisms for revulsion and allaying cramps; starch opiate clysters to obviate diarrhœa; in a few cases blood-letting to controul congestion; and lemonade, pectoral ptisan, or sugared Seltzer water for drink. These means have in general fulfilled the indications proposed.

*Hopital St. Antoine, Hopital des Enfants, Hopital des Veneriens, Hopital Necker, &c.*—The choleric cases admitted at St. Antoine were numerous, and were placed under the care of the physicians, MM. Kapeler, Mailly, and Guérard, and of Professor Berard, the surgeon of the institution.

M. Kapeler administered at the onset of the epidemic, laudanum, laudanum and ether in mixture, cinchona clysters, with laudanum and extract of rhatany, dry aromatic frictions or sinapisms, and external heat. This mode of treatment was followed by speedy cures, and also violent attacks of cerebral congestion, which rapidly destroyed convalescents. Neither blood-letting nor leeches controlled the symptoms. Opium was then abandoned. The tepid bath, stimulated with two pounds of soda or potass, followed by thirty drops of laudanum, were soon followed by heat and transpiration. In cases of deep collapse, an etherated camphor mixture was given by the stomach, and camphor was thrown into the intestines; and a terebinthinate camphor liniment was actively rubbed on the person. Sulphate of quinine and cold affusion are said to have been used without benefit.

M. Mailly, who gave little opium except at the onset, employed acetate of ammonia, etherated syrup, and infusion of peppermint in the cold stage; and

congestion he opposed by leeches and temporary blisters. By these means several cures were effected. Of 70 cases admitted into the St. Paul and St. Cecilia wards under his care, between the 1st and 6th of April, 14 were completely cured, and since this period, the success has been greater.

*Hopital des Enfants.*—In Paris, as in every other place, the number of children attacked has been inconsiderable. At the Hôtel-Dieu, to which the first patients, without distinction of age or sex, were brought, they received only 16, ten boys and 6 girls, and only two were about 5 or 6. At the Enfants Malades, on the 18th of April, the number of choleric cases amounted only to 87, 40 boys and 47 girls. The total deaths were 43, and the majority of these children were from 4 to 5 years or more. At this time of life, as in old age, reaction is not established, and *asphyxia* quickly cuts off the patients. Among the children above 7 or 8, the deaths are in the ratio of 1 in 3. In these subjects much is to be dreaded from the effect of cerebral congestion, which is speedily fatal.

M. Guersent employs in the chill period revellents to the skin, and stimulants internally; during reaction he applies leeches to the epigastrium, or behind the ears, emollient cataplasms and mild liquids for drink. Against typhoid symptoms, if they subsequently appeared, he gave *cinchona*, claret or Alicant wine, and blisters to the nape of the neck, or the occipital region.

MM. Jadelot, Baudelocque, and Bouneau, to each of whom one of the divisions of this hospital was intrusted, employed analogous means, and also used ipecacuan, calomel, the boric acid, &c.

Between the 6th and the 13th of April inclusive, forty-five choleric cases were brought to the Hopital des Veneriens, and under the care of M. Ricord, who ordered frictions along the spine with a very volatile liniment, the cramps were almost always allayed. None of the patients of this hospital under the actual use of mercurial frictions, were attacked by *cholera*, and it was even remarked, that few persons labouring under syphilis were overtaken by the disease; and, though several facts disprove the preservative influence of the latter power, it may subsequently become a subject of inquiry to what extent these conditions protect from the choleric invasion. M. Velpeau also employed mercurial frictions from the commencement of the epidemic. M. Jules Guerin, having observed that all the workmen employed in the preparations of mercury were exempt from cholera, thought that the mineral might be advantageously employed in curing the disease; and, with the view of enabling it to operate, he proposes previously to administer ipecacuan, in order to effect a reaction favourable to its influence. Mercurial friction on this principle has been followed by favourable results in cases apparently desperate. But these are too few and too vague to justify much confidence.

At the Hopital Necker, MM. Bricheteau and Delarrouque treated many patients from the adjoining districts; and many cases were supplied by the Gros-Caillou, Vaugiraud, Grenelle, and Mount Parnassus. In these populous districts it must be further observed, the women were attacked in much greater numbers than the men; and the admissions at the Necker presented this difference from all the other hospitals. On the 15th of April, the patients admitted since the commencement of the epidemic, amounted to 236, of whom 150 had died. The treatment was founded on the particular symptoms of each patient. The physicians of this institution believe, that, do what you will, it is extremely difficult to obtain any success when the cholera patient is in the blue period, and that all means, even the most energetic, possess little efficacy. The use of the antiphlogistic method, above all, they found pernicious at this period; and, on the whole, the diffusible stimulants were attended with less inconvenience. This opinion, coming from practitioners so respectable, we willingly record.—*Archives Générales, April, 1832.*

29. *Physiological Treatment of Cholera.*—In the statements in many of the French Journals, relative to the comparative success of different practitioners,